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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,547	07/30/2003	Patrick A. C. Gane	239126US0CONT	6504
22850	7590	06/09/2008	EXAMINER	
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			CORDRAY, DENNIS R	
			ART UNIT	PAPER NUMBER
			1791	
			NOTIFICATION DATE	DELIVERY MODE
			06/09/2008	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/629,547	GANE ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	DENNIS CORDRAY	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 27 March 2008.
- 2a) This action is **FINAL**.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1,3,5-7,9-13,16-21,24-29,34,36-47,49 and 61-70 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1,3,5-7,9-13,16-21,24-29,34,36-47,49 and 61-70 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ .                                    |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____.   | 6) <input type="checkbox"/> Other: _____ .                        |

## DETAILED ACTION

### ***Response to Arguments***

Applicant's amendments filed 3/27/2008 have overcome all outstanding rejections. However, due to the amendments, new grounds of rejection are presented as detailed below.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 62-64 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claims recite a process for treating pigments, fillers or minerals in an aqueous suspension. The Specification as filed requires the pigments, fillers or minerals being treated to contain a natural calcium carbonate (see p 9, lines 14-18; p 10, line 24 to p 11, line 32; Examples). The new claims fail to require the pigments, fillers or minerals being treated to contain a natural calcium carbonate, thus embody processes outside of the scope of the originally filed application.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 9-13, 16-21, 42-45, 47, 49, 61, 65, 66, 68 and 70 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Amended Claims 9, 11, 17 and 21 recite the limitation “wherein a paper filled or coated with the treated pigments, fillers, or minerals weighs less than a paper treated with a non-treated filler” but fails to recite what is intended to be “a non-treated filler.” Is the non-treated filler any filler (e.g. carbonate, TiO<sub>2</sub>, silicate, sawdust, etc.) that has not been treated by any process or that has been treated by a process different than the claimed treatment? Is the non-treated filler the same starting filler as the treated filler but not treated by the claimed process (perhaps treated by another process)? Is the filler the same starting filler as the treated filler but having no treatment of any kind? Or is some other non-treated filler envisioned?

Claim 68 recites the medium-strong H<sub>3</sub>O<sup>+</sup> ion-provider is selected from hydrochloric acid, sulphuric acid and mixtures thereof. The instant Specification (p 10, lines 7-13) recites the claimed species as strong acids having a pKa lower than or equal to zero, not medium-strong acids, which have a pKa between 0 and 2.5. It is thus not clear how the recited species can be medium-strong H<sub>3</sub>O<sup>+</sup> ion-providers.

Claim 70 recites the strong H<sub>3</sub>O<sup>+</sup> ion-provider is selected from H<sub>2</sub>SO<sub>3</sub>, HSO<sub>4</sub><sup>-</sup>, H<sub>3</sub>PO<sub>4</sub>, oxalic acid and mixtures thereof. The instant Specification (p 10, lines 7-13)

recites the claimed species as medium-strong acids having a pKa between 0 and 2.5, not strong acids, which have a pKa lower than or equal to zero. It is thus not clear how the recited species can be strong H<sub>3</sub>O<sup>+</sup> ion-providers.

Claims 10, 12, 13, 16, 18-20, 42-45, 47, 49, 61, 65 and 66 depend from and inherit the indefiniteness of Claims 9, 11, 17 or 21.

***Claim Rejections - 35 USC § 102 and 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim 62 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Passaretti (5043017)

Passaretti discloses a process for treating a slurry of either precipitated CaCO<sub>3</sub> or fine ground limestone (natural CaCO<sub>3</sub>). The pH of a slurry of the CaCO<sub>3</sub> was adjusted to 8.0 using CO<sub>2</sub>. Phosphoric acid (medium strong H<sub>3</sub>O<sup>+</sup> ion provider ) was added to and reacted with the slurry, and the pH of the slurry dropped to about 5.3. The pH of the slurry rose to 8.0 without adding a base after a few minutes and was still 8.0 after 24 hours (Abs; col 5, lines 54-59; col 6, lines 37-47; col 7, lines 45-64, Example 4).

Passaretti does not disclose that the CO<sub>2</sub> is gaseous; however, gaseous CO<sub>2</sub> is commonly used in the art and its use would have been obvious to one of ordinary skill in the art.

Passaretti also discloses that sulfurous acid ( $H_2SO_3$ ) can be used although phosphoric acid is preferred (col 4, lines 9-12).

Claims 63 and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Passaretti in view of Thomas (4359828).

Passaretti does not disclose the temperature of the treatment. Passaretti does disclose that the treatment can be performed in the papermaking furnish during the papermaking process (col 3, line 53 to col 4, line 8).

Thomas teaches temperatures of typical papermaking furnishes from 21.1 to 93.3 °C (col 6, line 64 to col 7, line 4).

The art of Passaretti, Thomas and the instant invention is analogous as pertaining to treatment of papermaking stock. It would have been obvious to one of ordinary skill in the art to treat the  $CaCO_3$  at the claimed temperature in the process of Passaretti in view of Thomas as a typical temperature of the papermaking furnish where the treatment of Passaretti is conducted.

Adding the acid incrementally would have been obvious to one of ordinary skill in the art as a functionally equivalent method of adding the acid, thus repeating the process several times with smaller increments of added acid. Alternatively, Claim 63 does not require repetition of steps a and b, but recites that they may be repeated.

***Allowable Subject Matter***

9. Claims 1, 3, 5-7, 24-29, 34, 36-41, 67 and 69 are allowable.

The following is an examiner's statement of reasons for indication of allowable subject matter: The nearest prior art that comprises acid and CO<sub>2</sub> treatment of carbonates discloses only small quantities of acid in the process, [i.e.- less than 6 percent of the amount of CaCO<sub>3</sub> (Passaretti, Fig. 3 and col 4, lines 38-41), which also corresponds to about 0.06 moles of acid per mole of CaCO<sub>3</sub>]. The use of larger relative amounts of acid is not anticipated by the prior art. Passaretti teaches that calcium carbonate decomposes in an acidic environment, thus it would not have been obvious to one of ordinary skill in the art to use acid in amounts greater than that disclosed by Passaretti to prevent creating an acidic environment.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DENNIS CORDRAY whose telephone number is (571)272-8244. The examiner can normally be reached on M - F, 7:30 -4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dennis Cordray/  
Examiner, Art Unit 1791

/Eric Hug/  
Primary Examiner, Art Unit 1791